

*FaS* → Claims

1. A startup/driving authorization system for a vehicle in which a control unit in the vehicle uses an interrogation/response dialog with a portable transponder to check and approve or deny authorization to start up and drive the vehicle by exchanging identification codes, characterized in that the authorization to start up and drive includes an automatic portion and a manual portion of the startup procedure, both of which additionally depend on preset switching and/or operating states of monitored vehicle components.

2. The startup/driving authorization system according to Claim 1, characterized in that the authorization includes an automatic startup procedure without any special manual operation of the vehicle if all preset switching and/or operating states of the monitored vehicle components are reached.

3. The startup/driving authorization system according to Claim 1 or 2, characterized in that an error signal can be triggered if one or more of the preset switching and/or operating states of the monitored vehicle components is not reached.

4. The startup/driving authorization system according to one of Claims 1 through 3, characterized in that the presence of a driver sitting in the driver's seat (FaS) is monitored as a preset switching and/or operating state.

5. The startup/driving authorization system according to one of Claims 1 through 4,

characterized in that an activated switch of the seat belt (SiG) of the driver's seat (FaS) is monitored as a preset switching and/or operating state.

6. The startup/driving authorization system according to one of Claims 1 through 5, characterized in that the activation of the brake pedal (BrP) or clutch is monitored as a preset switching and/or operating state for the startup phase.

7. The startup/driving authorization system according to one of Claims 1 through 6, characterized in that the neutral position of the gear train (GeT) is monitored as a preset switching and/or operating state for the startup phase.

8. The startup/driving authorization system according to one of Claims 1 through 7, characterized in that the position of the selector lever in the P/N position is monitored as a preset switching and/or operating state for the startup phase in vehicles with an automatic transmission.

9. The startup/driving authorization system according to one of Claims 1 through 8, characterized in that the end of the warm-up period is monitored as a preset switching and/or operating state for the startup phase in diesel vehicles.

10. The startup/driving authorization system according to one of Claims 1 through 9, characterized in that the brake pedal (BrP) or clutch is pressed prior to the startup phase to indicate intent to start the vehicle.

11. The startup/driving authorization system according to one of Claims 1 through 10,

characterized in that legally required locks (SE) for the steering system, power transmission and/or gear train (GeT) are released prior to the startup phase.

12. The startup/driving authorization system according to one of Claims 1 through 11,

characterized in that the manually operated switch element (SS) changes functions depending on engine speed to start up and shut down the engine.

13. The startup/driving authorization system according to one of Claims 1 through 12,

characterized in that the vehicle engine can be shut down automatically by removing the transponder from within communication range of the startup/driving authorization system after the vehicle has come to a stop.

14. The startup/driving authorization system according to one of Claims 1 through 13,

characterized in that the engine of a vehicle with an automatic transmission can be shut down automatically upon engaging the gear position "P".

15. The startup/driving authorization system according to Claim 13 or 14,

characterized in that idle speed is also monitored and included in the shutdown procedure.

16. The startup/driving authorization system according to one of Claims 1 through 15,

characterized in that the entire startup procedure, including transponder identification, can be repeated by activating the

starter switch element (SS) if the startup procedure is not carried out or is unsuccessful.

17. The startup/driving authorization system according to one of Claims 1 through 16, characterized in that the startup procedure, including transponder identification, can be repeated by pressing the brake pedal (BrP) or clutch or both controls if the startup procedure is not carried out or is unsuccessful.

18. The startup/driving authorization system according to one of Claims 1 through 17, characterized in that the vehicle electrical system (such as terminal 15) can remain active, either entirely or in part, if the startup procedure is not carried out or is unsuccessful, and, with the exception of legally required elements of the safety system (such as hazard lights and parking lights), it can be shut down by removing the transponder from within communication range of the startup/driving authorization system.

19. The startup/driving authorization system according to one of Claims 1 through 18, characterized in that, if one of the preconditions for startup approval fails to be met, or if the transponder identity is incorrect, the driver is notified of the cause of the error.

*AdA*